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Part VI

Department of the Interior

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Status for Five Puerto Rican Trees and Two Fish, the Goldline Darter and Blue Shiner; Final Rules

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB56

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for Five Puerto Rican Trees

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines *Callicarpa ampla* (capá rosa), *Styrax portoricensis* (palo de jazmin), *Ternstroemia luquillensis* (palo colorado), *Ternstroemia subsessilis* (no common name) and *Ilex sintenisii* (no common name) to be endangered species pursuant to the Endangered Species Act (Act) of 1973, as amended. These species are endemic to Puerto Rico, with one possible exception, and are currently found only in the Luquillo Mountains within the Caribbean National Forest. All are extremely rare and potentially threatened by forest management practices, construction of communication facilities on high peaks, road construction and maintenance, hurricane damage, and collection. This final rule will implement the Federal protection and recovery provisions afforded by the Act for *Callicarpa ampla, Styrax portoricensis, Ternstroemia luquillensis, T. subsessilis* and *Ilex sintenisii.*

EFFECTIVE DATE: May 22, 1992.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Caribbean Field Office, U.S. Fish and Wildlife Service, P.O. Box 491, Boquerón, Puerto Rico 00622; and at the Service's Southeast Regional Office, suite 1282, 75 Spring Street SW., Atlanta, Georgia 30303.

FOR FURTHER INFORMATION CONTACT: Ms. Marelisa Rivera or Ms. Susan Silander at the Caribbean Field Office address (809/851-7297), or Mr. Dave Flemming at the Atlanta Regional Office address (404/331-3583 or FTS 841-3583).

SUPPLEMENTARY INFORMATION:

Background

The Luquillo Mountains are found in the extreme northeastern part of Puerto Rico. The majority of the area (11,300 hectares) is managed by the U.S. Forest Service as the Caribbean National Forest. Four forest associations have been identified in these mountains: tabonuco, palo colorado, dwarf and sierra palm. The five species that are the subject of this rule are restricted to the palo colorado and/or the dwarf forests. The palo colorado association is found at elevations greater than 600 meters and covers approximately 17 percent of the Caribbean National Forest. It derives its name from the palo colorado tree (*Cyrilla racemiflora*) which is dominant in this forest type. The dwarf or elfin association is found on the summits of mountains at elevations greater than 750 meters and covers only 2 percent of the Forest. This forest is composed of dense stands of short, small diameter, twisted trees and shrubs and the forest floor is covered with mosses and epiphytes. Relative humidity ranges from 95 to 100 percent and annual precipitation from 313 to 450 centimeters. Temperatures range from 11.5° to 32.5° C throughout the year, with a mean annual temperature of 21° C (Brown et al., 1983).

Callicarpa ampla (capá rosa) was described by Schauer in 1847 from specimens collected in 1827 by Wydler at an unknown location in Puerto Rico (Schauer, 1847). Since then it has been collected only seven times: Six specimens are from Puerto Rico and one reportedly came from St. Thomas, U.S. Virgin Islands (Vivaldi and Woodbury, 1981). However, whether or not the specimen indicated as having been collected from St. Thomas actually came from there is questionable (Vivaldi and Woodbury, 1981). In Puerto Rico, this species has been collected in Barranquitas, Adjuntas, Utuado, Cayey, and the Luquillo Mountains. At present, the species is known only from the palo colorado forest association in the Luquillo Mountains. Only 14 trees in 5 sites have been located. In addition, 15 seedlings were observed at one population site during post-Hurricane Hugo surveys (C. Laboy, pers. comm.).

Callicarpa ampla is an evergreen tree which may grow to 50 feet (15 meters) tall. The young twigs are 4-sided and whitish. Leaves are opposite, entire, broadest at the middle and taper to both ends. They are 4 to 10 inches (10 to 25 centimeters) long, 1½ to 3 inches (3.3 to 7 centimeters) wide, green on the upper surface, densely white scurfy below, and borne on a petiole about 1 inch (2.2 centimeters) in length. The inflorescence is branched and has numerous, small, whitish flowers each with a 4-lobed corolla about ⅛ inch (.3 centimeters) long. Fruits are white when young but become purplish upon maturity, and are ¼ inch (.5 centimeter) in diameter, with the calyx attached at the base (Vivaldi and Woodbury, 1981).

Styrax portoricensis (palo de jazmín) was collected for the first time in 1885 from the eastern mountains of Puerto Rico by Paul Sintenis and described by Krug and Urban in 1892 from those same specimens. Collected only twice, in 1935 and 1954, it was thought to be extinct until rediscovered by Roy Woodbury in November 1982 (George Proctor, pers. comm.). Only one immature tree is presently known and occurs in the palo colorado forest association of the Luquillo Mountains. It suffered slight damage from Hurricane Hugo in September 1989 due to wind-thrown trees. The trees that had fallen on it were subsequently removed by the U.S. Forest Service (Carlos Laboy, pers. comm.).

Styrax portoricensis is an evergreen tree which may reach 66 feet (20 meters) in height. Leaves are alternate, without stipules, entire with margins turned under, 2½ to 4 inches (6 to 10 centimeters) long and 1¼ to 2 inches (2.75 to 4.4 centimeters) wide, tapered at both ends and widest at the middle. They are shiny dark green above, pale green below, hairless, but occasionally with scattered star-shaped scales. The inflorescence is a 3 to 6 flowered raceme, each flower being borne on a curved pedicel ⅜ to ⅝ (.8 to 1.4 centimeter) long. Fruits are a one-seeded elongated drupe, about ½ inch (1.1 centimeter) in diameter, densely covered with scales and maintaining the cup-shaped calyx at the base (Vivaldi et al., 1981a).

Ternstroemia luquillensis (palo colorado) was described by Krug and Urban in 1896 on the basis of three specimens, two collected by Paul Sintenis and one collected by Eggers. It is known from both the palo colorado and dwarf forests of the Luquillo Mountains; however, two populations previously reported from the dwarf forest are no longer present. The largest was destroyed by the construction of communication towers on El Yunque peak, and the other nearby population was destroyed by a hurricane. Only six individuals in four locations, three of which are in the colorado forest type and one in the dwarf forest of Pico del Este, are presently known to occur (Vivaldi et al., 1981b). However, the two individuals of one population near Road #191 have not been relocated recently and indeed may have originally been misidentified.

Ternstroemia luquillensis is an evergreen tree reaching 60 feet (18 meters) in height. The leaves are alternate, thick and leathery, and wide at the middle but acute at both ends. They are up to 4 inches (10 centimeters) long and about 3 times longer than wide. Both surfaces are green and the

underside is black punctate. The flowers are showy, approximately 1 inch (2.5 centimeters) in diameter and the 5 petals are white or cream colored and concave. Fruits are ovoid capsules which are terminated by the persistent style. Seeds are red and about 3 millimeters in length (Vivaldi et al., 1981b).

Ternstroemia subsessilis was first collected in 1914 by J.A. Shaffer in the Luquillo Mountains and again in 1923 by Britton and Brunner at the summit of El Yunque. Although collected in the Maricao Forest in 1960 by Roy O. Woodbury, it is now apparently restricted to the palo colorado and dwarf forests of the Luquillo Mountains (Vivaldi et al., 1981c). One dwarf forest population was destroyed by the construction of communication facilities on El Yunque peak. Thirty-seven individuals in four populations, one in the dwarf forest near Pico del Este, are currently known (C. Laboy, pers. comm.).

T. subsessilis is an evergreen shrub or small tree which may reach 17 feet (5 meters) in height. Leaves are alternate, entire, stiffly coriaceous, obovate or oblanceolate, 1¼ to 3 inches (3 to 7 centimeters) long and ½ to 1 inch (1.5 to 2.8 centimeters) wide. Both leaf surfaces are dull green but the lower surface is black punctate. Flowers are solitary, white, ½ inch (1 centimeter) in diameter, sessile, and axillary at the ends of the branches. The fruit is an ovoid-conical capsule about 10 millimeters long and tapering to a sharp point. Ripe fruits were observed in May 1991.

Ilex sintenisii was first discovered by Paul Sintenis in the upper elevations of the Luquillo Mountains. This Puerto Rican endemic is found only in the Luquillo Mountains where it is restricted to the dwarf or elfin forest. The dwarf forest covers only approximately 225 hectares or 2 percent of the Caribbean National Forest. It is threatened by the potential for further construction and expansion of communication facilities on these high peaks. A total of 150 individuals in three populations have been reported.

I. sintenisii is a shrub or small tree which may reach 15 feet (4.5 meters) in height and 3 inches (7.6 centimeters) in diameter. Leaves are alternate, glabrous, obovate to elliptic, coriaceous, ⅜ to 1⅛ inch (1 to 2.5 centimeters) long and ¼ to ¾ inch (.6 to 1.9 centimeters) wide, and notched at the apex with the edges turned under. The bark is gray, smooth, and usually covered with mosses and liverworts. The flowers are white, axillary on pedicels ¼ to ⅜ inch (.6 to 1 centimeter) long, and 4 to 5 parted. Fruits and drupes and green when immature.

Callicarpa ampla, Styrax portoricensis and *Ternstroemia luquillensis,* and *T. subsessilis* were recommended for Federal listing by the Smithsonian Institution (Ayensu and DeFilipps, 1979). These tree species were included among the plants being considered as endangered or threatened by the Service, as published in the Federal Register (45 FR 82480) dated December 15, 1980; the November 28, 1983 update (48 FR 53680) of the 1980 notice; and revised of September 27, 1985 (50 FR 39526) and February 21, 1990 (55 FR 6184). These species were designated category 1 (species for which the Service has substantial information supporting the appropriateness of proposing to list them as endangered or threatened) in each of the four notices. *Ilex sintenisii* has been ranked as likely to go extinct in 5 to 10 years (Priority B) by the Center for Plant Conservation. It is considered to be a critical plant by the Natural Heritage Program of the Puerto Rico Department of Natural Resources.

In a notice published in the Federal Register on February 15, 1983 (48 FR 6752), the Service reported the earlier acceptance of the new taxa in the Smithsonian's 1978 book as under petition within the context of section 4(b)(3)(A) of the Act, as amended in 1982. The Service subsequently found that listing *Callicarpa ampla, Styrax portoricensis, Ternstroemia luquillensis,* and *T. subsessilis* was warranted but precluded by other pending listing actions of a higher priority, and that additional data on vulnerability and threats were still being gathered. The Service proposed listing these five species on April 19, 1991 (56 FR 16059), constituting the final finding under the petition process.

Summary of Comments and Recommendations

In the April 19, 1991, proposed rule and associated notifications, all interested parties were requested to submit factual reports of information that might contribute to the development of a final rule. Appropriate agencies of the Commonwealth of Puerto Rico, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice inviting general public comment was published in the San Juan Star on May 10, 1991. Four letters of comment were received and are discussed below. A public hearing was neither requested nor held.

The U.S. Army Corps of Engineers, Jacksonville District, reported that they did not have any actions proposed or under consideration that might affect any of these five species and did not have any additional information on their status.

The Secretary of the Puerto Rico Department of Natural Resources supported the listing of the species. The Department's Terrestrial Ecology Division concurred with the determination and provided more accurate collection information for *Styrax portoricensis* and *Ternstroemia subsessilis.* Information for the final rule has been revised accordingly.

The U.S. Forest Service supported the listing of all five species and provided supplemental information based on recent survey and management activities conducted for these species. This additional information has been incorporated into the final rule as appropriate.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that these five trees should be classified as endangered species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Callicarpa ampla* Schauer, *Styrax portoricensis* Krug & Urban, *Ternstroemia luquillensis* Krug & Urban, *T. subsessilis* (Britton) Kubuski, and *Ilex sintenisii* (Urban) Britton are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Although all five of these species are found only within the Caribbean National Forest, which is managed by the U.S. Forest Service, forest management practices such as the establishment and maintenance of plantations, selective cutting, trail and road construction and maintenance, and shelter construction may affect these trees unless their protection is given adequate consideration. The destruction of the dwarf or elfin forests for the construction and/or expansion of communication facilities by the U.S. Navy and private entities also continues to be a potential problem. A proposal for expansion of the Navy facilities on Pico del Este is currently under consideration. Individual of *Callicarpa ampla* are found along Road #191, proposed for reconstruction and

reopening in the near future with funds from the Federal Highway Administration. In addition, the extreme rarity of all these species make the loss of any one individual even more critical. The Service notes, however, that the U.S. Forest Service has stated (*in litt.*, 1991) that it is Forest Service policy to protect these species from possible effects associated with any proposed land management activity. Recent survey and management actions by the Forest Service for these species further indicate a definite commitment to their conservation.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes.

Plant collecting is prohibited in the Caribbean National Forest; however, remote areas are difficult to monitor on a regular basis. The ornamental potential of these species may result in taking in the future.

C. Disease or Predation

Disease and predation have not been documented as factors in the decline of this species.

D. The Inadequacy of Existing Regulatory Mechanisms

The Commonwealth of Puerto Rico has adopted a regulation that recognizes and provides protection for certain Commonwealth listed species. However, *Callicarpa ampla, Styrax portoricensis, Ternstroemia luquillensis, T. subsessilis,* and *Ilex sintenisii* are not yet on the Commonwealth list. Federal listing would provide immediate protection and, if the species are ultimately placed on the Commonwealth list, would enhance their protection and possibilities for funding needed research.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Probably the most important factor affecting *Callicarpa ampla, Styrax portoricensis, Ternstroemia luquillensis, T. subsessilis,* and *Ilex sintenisii* in Puerto Rico is their limited distribution. Hurricane Hugo recently devastated the Caribbean National Forest, causing defoliation and breaking branches on numerous individuals. Because so few individuals are known to occur, the risk of extinction is extremely high.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Callicarpa ampla, Styrax portoricensis, Ternstroemia luquillensis, T. subsessilis,* and *Ilex sintenisii* as endangered. Forest management practices such as establishment of recreation areas and plantations, road construction and maintenance, selective cutting, trail construction and maintenance have the potential to dramatically affect all these species. The impacts of hurricane damage could be devastating. The expansion of communication facilities would result in elimination of individual plants. Therefore, endangered rather than threatened status seems an accurate assessment of the species' condition. The reasons for not proposing critical habitat for this species are discussed below in the "Critical Habitat" section.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary propose critical habitat at the time the species is proposed to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for these species at this time. The number of individuals of *Callicarpa ampla, Styrax portoricensis, Ternstroemia luquillensis, T. subsessilis,* and *Ilex sintenisii* are sufficiently small that vandalism and collection could seriously affect the survival of these species. Publication of critical habitat descriptions and maps in the **Federal Register** would increase the likelihood of such activities. The Service believes that Federal involvement in the areas where these plants occur can be identified without the designation of critical habitat. All involved parties have been notified of the location and importance of protecting these species' habitats, and the U.S. Forest Service, the only involved landowner, already has ongoing activities intended to conserve and protect these species. Protection of these species' habitats will also be addressed through the recovery process and through the section 7 jeopardy standard.

Available Conservation Measures

Conservation measures provided to species listed as endanged or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, Commonwealth, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the Commonwealth, and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Potential Federal involvement for these five trees relates to activities to be conducted by the U.S. Forest Service, the U.S. Navy and the Federal Highway Administration in the Caribbean National Forest. A conference was conducted between the Federal Highway Administration and the Fish and Wildlife Service in order to evaluate the possible impacts of the reconstruction and reopening of Road #191 through the Caribbean National Forest. Additional surveys were conducted and measures were developed to minimize impacts and protect individuals known to be located close to the road.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general prohibitions and exceptions that apply to all endangered plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export any endangered plant, transport it in interstate or foreign commerce in the course a commercial activity, sell or offer it for sale in interstate or foreign commerce, or remove it from areas under Federal jurisdiction and reduce it to possession. In addition, for endangered plants, the 1988 amendments (Pub. L. 100–478) to the Act prohibit the removal, cutting, digging up, or damaging or destroying of endangered plants in knowing violation of any State (Commonwealth) law or regulation, including State

(Commonwealth) criminal trespass law. Certain exceptions apply to agents of the Service and Commonwealth conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances.

It is anticipated that few trade permits for these five species will ever be sought or issued, since the species are not known to be in cultivation and are uncommon in the wild. Requests for copies of the regulations on listed plants and inquiries regarding Federal prohibitions and permits may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, 4401 Fairfax Drive, room 432, Arlington, Virginia 22203 (703/358–2104).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adpoted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References

Ayensu, E.S., and R.A. Defilipps. 1978. Endangered and threatened plants of the United States. Smithsonian Institution and World Wildlife Fund. Washington, D.C. xv + 403 pp.

Brown, S., A.E. Lugo, S. Silander, and L. Liegel. 1983. Research history and opportunities in the Luquillo Experimental Forest. General Technical Report SO–44. U.S. Department of Agriculture, Forest Service, Southern Forest Experiment Station, New Orleans, Louisiana. 128 pp.

Little, E.L., Jr., R.O. Woodbury, and F.H. Wadsworth. 1974. Trees of Puerto Rico and the Virgin Islands, second volume. Agriculture Handbook No. 449. U.S. Department of Agriculture, Forest Service, Washington, D.C. 1024 pp.

Liogier, H.A., and L.F. Martorell. 1982. Flora of Puerto Rico and adjacent islands: a systematic synopsis. University of Puerto Rico, Río Piedras, Puerto Rico. 342 pp.

Vivaldi, J.L., and R.O. Woodbury. 1981. Status report on *Callicarpa ampla* Shauer. Submitted to U.S. Fish and Wildlife Service, Atlanta, Georgia. 41 pp.

Vivaldi, J.L., R.O. Woodbury, and H. Diaz-Soltero. 1981a. Status report on *Styrax portoricensis* Krug & Urban. Submitted to U.S. Fish and Wildlife Service, Atlanta, Georgia. 28 pp.

Vivaldi, J.L., R.O. Woodbury, and H. Diaz-Soltero. 1981b. Status report on *Ternstroemia luquillensis* Krug & Urban. Submitted to U.S. Fish and Wildlife Service, Atlanta, Georgia. 39 pp.

Vivaldi, J.L., R.O. Woodbury, and H. Diaz-Soltero. 1981c. Status report on *Ternstroemia subsessilis* (Britton) Kobuski. Submitted to U.S. Fish and Wildlife Service, Atlanta, Georgia. 41 pp.

Authors

The primary authors of this final rule are Ms. Marelisa Rivera and Ms. Susan Silander, Caribbean Field Office, U.S. Fish and Wildlife Service, P.O. Box 491, Boquerón, Puerto Rico 00622 (809/851–7297).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulations Promulgation

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations is amended, as set forth below:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625. 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under Aquifoliaceae, Styracaceae, Theaceae, and Verbenaceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

* * * * *

(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Aquifoliaceae—Holly family:						
*	*	*	*	*	*	
Ilex sintenisii	None	U.S.A. (PR)	E	461	NA	NA
*	*	*	*	*	*	
Styracaceae—Styrax family:						
*	*	*	*	*	*	
Styrax portoricensis	Palo de jazmín	U.S.A. (PR)	E	461	NA	NA
*	*	*	*	*	*	
Theaceae—Tea family:						
Ternstroemia luquillensis	Palo colorado	U.S.A. (PR)	E	461	NA	NA
Ternstroemia subsessilis	None	U.S.A. (PR)	E	461	NA	NA
*	*	*	*	*	*	
Verbenaceae—Verbena family:						
*	*	*	*	*	*	
Callicarpa ampla	Capá rosa	U.S.A. (PR)	E	461	NA	NA
*	*	*	*	*	*	

(Final: Five Puerto Rican trees—endangered)

Dated: April 14, 1992.

Richard N. Smith,

Director, Fish and Wildlife Service.

[FR Doc. 92–9392 Filed 4–21–92; 8:45 am]

BILLING CODE 4310–55–M

50 CFR Part 17

RIN 1018-AB56

Endangered and Threatened Wildlife and Plants; Threatened Status for Two Fish, the Goldline Darter (Percina Aurolineata) and Blue Shiner (Cyprinella Caerulea)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines the goldline darter (*Percina aurolineata*) and the blue shiner (*Cyprinella caerulea*) to be threatened species under the authority of the Endangered Species Act (Act) of 1973, as amended. The goldline darter occurs in the Cahaba River System, Alabama, and in fragmented populations in the upper Coosa River System, Georgia. The blue shiner has been extirpated from the Cahaba River System and occurs in fragmented populations in the upper Coosa River System, Alabama, Georgia, and Tennessee. These two fishes have declined due to the loss of habitat from reservoir construction and degradation of water quality, as well as the effects of habitat fragmentation. This rule implements the protection and recovery provisions afforded by the Act for the goldline darter and blue shiner.

EFFECTIVE DATE: May 22, 1992.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Fish and Wildlife Service, 6578 Dogwood View Parkway, suite A, Jackson, MS 39213.

FOR FURTHER INFORMATION CONTACT: Mr. James H. Stewart at the above address (601/965-4900 or FTS 490-4900).

SUPPLEMENTARY INFORMATION:

Background

The goldline darter, *Percina aurolineata*, was described in 1967 by Suttkus and Ramsey from specimens captured in the Cahaba and Coosawattee Rivers. This darter is historically known from 49 miles of the Cahaba River and almost 7 miles of the Little Cahaba River in Alabama (Stiles 1978, 1990). It has been collected in from Schultz Creek, a Cahaba River tributary (M.F. Mettee, *in litt.*, 1990). It has been collected from the upper Coosa River drainage in the Coosawattee, Ellijay and Cartecay Rivers (Freeman 1983). The latter two are tributaries that form the Coosawattee River. The goldline darter has also been collected in Mountaintown and Boardtown Creeks, tributaries of the Ellijay River, and from Talking Rock Creek, a tributary of the Coosawattee River below Carters Reservoir (Freeman 1983; Pierson, pers. comm., 1990; S.R. Layman, *in litt.*, 1990).

The blue shiner was described from tributaries of the Oostanaula River, Georgia, by Jordan in 1877 (Pierson and Krotzer 1987). The blue shiner is frequently mentioned in the literature as *Notropis caeruleus*. In the past, it has been recognized as a member of the subgenus *Cyprinella*. A revision of the genus *Notropis* elevated *Cyprinella* to generic status (Mayden 1989). The American Fisheries Society is revising "A List of Common and Scientific Names of Fishes from the United States and Canada" and is recognizing Mayden's elevation of *Cyprinella* to generic status (S.R. Layman, AFS Endangered Species Committee, *in litt.*, 1990).

This medium-sized minnow is historically known from the Cahaba and Coosa River systems. It was last collected from the Cahaba River system in 1971 (Ramsey 1976). The Alabama range for this species is Weogufka and Choccolocco Creeks and the lower reach of Little River (Pierson and Krotzer 1987). In Tennessee, the range includes the Conasauga River and a tributary, Minnewauga Creek. In Georgia, the blue shiner is found in the Conasauga and Coosawattee Rivers and the tributaries, Holly, Rock, Perry, and Turniptown Creeks (Freeman 1983). The species no longer exists in Big Wills Creek, a tributary of the upper Coosa River (Pierson and Krotzer 1987). Both species may have once occupied most of the upper Coosa and Alabama River drainages. The actual extent of the historic range and of the decline cannot be determined. Recent range reductions have been well documented.

The goldline darter is a slender, medium-sized fish, about 3 inches long with brownish-red and amber dorsolateral stripes. It differs from other members of the subgenus *Hadropterus* in the color pattern of the back (Kuehne and Barbour 1983). The goldline darter has a pale to dusky back. Its white belly has a series of square lateral and dorsal blotches that are separated by a pale or gold-colored longitudinal stripe. The goldline darter prefers a moderate to swift current and water depths greater than 2 feet (Howell *et al.* 1982). It is found over sand or gravel substrate interspersed among cobble and small boulders. Practically nothing is known about the life history of the goldline darter.

The blue shiner is a medium-sized minnow that may attain 4 inches in total length. It often appears to be dusky blue with pale yellow fins (Ramsey 1986). The scales are strongly diamond-shaped and outlined with melanophores. The lateral line is distinct. Some aspects of the life history in the Conasauga River, Georgia, have been studied (Krotzer 1990). The blue shiner occurs over a sand and gravel substrate among cobble in cool, clear water (Gilbert *et al.* 1979).

Federal Register publications for the goldline darter include the notice of review on March 18, 1975 (40 FR 12297), a proposed rule on November 29, 1977 (42 FR 60765), a notice of public hearing and extension of the comment period on February 6, 1978 (43 FR 4872), a correction of proposed critical habitat on April 7, 1978 (43 FR 14697), with a withdrawal of the proposed rule for administrative reasons on January 24, 1980 (45 FR 5782), and notice of reviews on December 30, 1982 (47 FR 58454), on September 18, 1985 (50 FR 37958), and on January 6, 1989 (54 FR 554). A public hearing was held in Birmingham, Alabama, on March 15, 1978. Several studies have been conducted on this species since the proposal was withdrawn. The goldline darter was again proposed for protection in the **Federal Register** (56 FR 16055) on April 19, 1991.

Federal Register publications on the blue shiner include the notice of review on September 18, 1985 (50 FR 37958) and on January 6, 1989 (54 FR 554). It has not been previously proposed for Federal protection. The blue shiner was proposed for protection, along with the goldline darter, in the **Federal Register** (56 FR 16055) on April 19, 1991.

Summary of Comments and Recommendations

In the April 19, 1991, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice was published in "The Advertiser," Montgomery, Alabama, on May 4, 1991, the "Chattanooga News-Free Press," Chattanooga, Tennessee, and "The Birmingham News," Birmingham, Alabama, on May 5, 1991,

"The Anniston Star," Anniston, Alabama, on May 8, 1991, and "The Daily Citizen-News," Dalton, Georgia on May 9, 1991, which invited general public comment. The Service received 19 comments on the proposal to list these two species as threatened. One Federal agency commented without expressing a position and one Federal agency concurred with the proposed rule. A local government agency expressed qualified support for the listing while discussing their continued need for the Cahaba River System as a water supply. The concerns of this agency center on impacts to the Little Cahaba River, Shelby County, Alabama. This is a different and smaller stream than the Little Cahaba River in Bibb County where the goldline darter occurs. A national conservation organization's Georgia office expressed support for the listing, as did two professional ichthyologist and 13 private individuals. There were no comments in opposition.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the goldline darter and blue shiner should be classified as threatened species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the goldline darter, *Percina aurolineata*, and the blue shiner, *Cyprinella caerulea*, are as follows:

A. *The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range*

The goldline darter no longer occurs upstream of Booths Ford in the Cahaba River (Howell *et al.* 1982) and populations seem to have declined throughout the Cahaba River System (Stiles 1990). The goldline darter continues to exist in fragmented populations in the Coosawattee River, Georgia (Freeman 1983), in about 7 miles of the Little Cahaba River, and in 27 miles of the 49 miles of historic range in the Cahaba River, Alabama (Howell *et al.* 1982, Stiles 1990). Three adult specimens have been collected from Schultz Creek, a Cahaba River tributary (M.F. Mettee, Geological Survey of Alabama, *in litt.*, 1990). It is not known if this represents an expansion of the range or if these darters are a part of the Cahaba River population.

The blue shiner has been extirpated from the Cahaba River System (Ramsey 1976, Pierson and Krotzer 1987, Pierson *et al.* 1989). It has not been collected from Big Wills Creek of the upper Coosa River System since 1958 (Pierson and Krotzer 1987). The blue shiner continues to exist in the Coosawattee and Conasauga River systems, Georgia, in the Conasauga River system, Tennessee, in Choccolocco and Weogufka Creeks, tributaries of the Coosa River, Alabama, and at one site in Little River, Alabama (Freeman 1983, Pierson and Krotzer 1987).

The reduction in range of the goldline darter and the extirpation of the blue shiner from the Cahaba River system is the result of water quality degradation (Howell *et al.* 1982, Ramsey 1982, Pierson and Krotzer 1987). Historic populations of the goldline darter and blue shiner have been seriously affected by urbanization, sewage pollution, and strip-mining activities in the upper Cahaba River basin. During their study of the upper Cahaba River, Howell *et al.* (1982) observed adverse impacts to water quality from the Cahaba River and Patton Creek Sewage Treatment Plants, limestone quarries on Buck Creek, and strip-mining in the area of Piney Woods Creek and Booth Ford. In recent years, the Patton Creek plant has been replaced by the upgraded Cahaba River plant. Adverse impacts from these plants have been reduced.

Since he began collecting on the Cahaba River in 1962, Ramsey (1982) has observed an increase in blue-green algae, an indicator of water quality degradation, at several localities. One location in particular, just below the Shelby County Highway 52 bridge, has been adversely affected by a diminution of vascular plants, apparently displaced by a substantial growth of blue-green algae on much of the rock and rubble substrate. This loss of vascular plants is correlated with the extirpation of Cahaba shiners, goldline darters, and blue shiners from this area since 1969. The affects on the fauna of water rich in dissolved nutrients can be magnified in still pools during low flows and high temperatures. Dissolved oxygen often drops to low levels. In some stretches of the river, virtually all of the water flow in the Cahaba River during low flows consists of treated sewage effluent.

O'Neil (1984) and the Environmental Impact Statement for the Cahaba River Wastewater Facilities, Jefferson, Shelby, and St. Clair Counties, Alabama, (U.S. Environmental Protection Agency (EPA) 1979) identified and projected water quality problems in the Cahaba River. Relatively high levels of total inorganic nitrogen and total phosphorus were found at several locations throughout the basin. Increased algal biomass, high diurnal oxygen fluctuations, and decreased oxygen were found when water levels were low. The EPA found water flow in the Cahaba River was insufficient to handle sewage needs and that alternative water supplies to increase flow could have an adverse effect on the biota.

In the Cahaba River basin, there are 10 municipal wastewater treatment plants, 35 surface mining areas, one coalbed methane and 67 other permitted discharges (Alabama Department of Environmental Management *in litt.* 1990). Since the EPA study, some of the wastewater treatment plants have been upgraded. However, this has not eliminated the problem of enrichment in the Cahaba River. Sewage that has received tertiary treatment is still high in nutrients and can contribute to eutrophication of an aquatic system. Not all plants provide tertiary treatment to their wastewater, nor are many capable of treating the heavy inflow that occasionally occurs. The Centerville-Brent plant is designed for 702,000 gallons per day. The only treatment is a three cell series of lagoons for settling. The actual flow of the Centerville-Brent plant has not been determined. The Helena waste treatment plant is designed for 250,000 gallons per day with an actual flow of 262,000 gallons per day. While this plant provides more treatment than just settling lagoons, the inflows that exceed the capacity of the plant must be bypassed. The Cahaba Wastewater Treatment Plant is designed for 12 million gallons per day and receives an average of 9 million gallons per day (Jack Swann, Jefferson County Director of Environmental Services, pers. comm. 1990). During periods of heavy inflows, i.e. rainfall, etc., the capacity of the plant is exceeded and some wastewater bypasses at least some treatment stages. During the period of December 1987 to June 1990, there were 14 reported periods when some wastewater bypassed the treatment at the Cahaba River plant (Leigh Pegues, *in litt.*, 1990). These reported periods were of 1 to 14 days duration with an estimated bypass of 520 million gallons of untreated wastewater. This release of untreated wastewater has continued into 1991 with a reported 118.5 million gallons bypassed in just over four months. Unreported and unmonitored releases of untreated wastewater continue to adversely affect the biota of the Cahaba River. The periodic influx of organic matter to the Cahaba River indicates

that many of the problems identified by the EPA continue to exist.

There is considerable interest in methane gas extraction in the Cahaba River Basin. The 2-year extension of tax incentives for methane gas extraction is expected to increase interest in that activity in the Cahaba River basin. Permitted discharge limits (based on chlorides, pH, and dissolved oxygen) are designed to maintain the fish and wildlife quality of the Cahaba River. However, the potential for the discharge of wastewater from these wells in excess of permitted levels and the subsequent impact on the goldline darter is a concern. There is also the possibility for adverse impact from other pollutants that may be in wastewater from methane gas wells. The basis for establishing water quality limits and monitoring permitted discharge is also a concern. The fish species used for toxicity testing and monitoring is the fathead minnow, *Pimephales promelas*. This species is known to be very hardy and tolerant of water quality degradation. It is not native to the Cahaba River system and may not be representative of native species. There are no mollusks used in the toxicity testing and this important group may serve as food for some fish during some life stages.

In 1978 (Howell *et al.* 1982, Stiles 1990), the goldline darter was abundant in some stretches of the Little Cahaba River. In the Little Cahaba River, there has been an increase in sediment since 1987 and a fish kill (Stiles 1990). The increase in sediment is apparently the result of road construction and clearing for a wood treatment plant, and the operation of limestone quarries and cement plants (Stiles 1990). The 1987 fish kill was possibly a result of clearing a hillside, stacking treated lumber, and the subsequent influx of sediments and wood preservatives into the Little Cahaba River by a heavy rain (Stiles 1990). In the stretch of the Little Cahaba River affected by sediment, Stiles (1990) has only collected or observed four goldline darters since 1987. In intensive collecting since September 1989, the Geological Survey of Alabama has collected only seven goldline darters in the Cahaba River system, with none of them from the Little Cahaba River (Mettee, *in litt.*, 1990). No blue shiners have been collected in that effort.

Any populations that historically occupied the upper Alabama and Coosa Rivers were undoubtedly extirpated by the near total impoundment of both rivers. Upstream of the confluence with the Cahaba River, the Alabama River has been impounded for hydropower, navigation and flood control. With the exception of about three miles below Jordan Dam, the Coosa River is completely impounded for hydropower and flood control. In addition to extirpating any historic populations by inundation, these reservoirs have isolated tributary populations as discussed under Factor E. While the Service is unable to determine how many tributaries of the Coosa River system once contained populations of either of these species, there is no reason to conclude that the historic range did not include other tributaries.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Collecting of these two species is not a likely threat. However, when the population of a species is adversely impacted by habitat degradation, the removal of individuals by a collector can become more significant than if the population was healthy.

C. Disease or Predation

Both of these fish are prey species and are subject to natural disease outbreaks. As with collecting, this is not a likely threat to healthy populations. However, if a population is stressed by other factors like eutrophication, then disease and predation can be significant to the species' survival, even if they are a natural occurrence.

D. The Inadequacy of Existing Regulatory Mechanisms

Neither of these species are given any special consideration when project impacts are reviewed for compliance with various environmental laws and regulations. All the States where these species occur require scientific collecting permits. Violators of these permit requirements are very difficult to apprehend.

E. Other Natural or Manmade Factors Affecting its Continued Existence

The range of both species has been reduced and fragmented by many reservoirs for flood control and hydropower. This has resulted in several isolated populations. Isolating populations make them very susceptible to environmental changes, may result in decreased genetic diversity and may make finding mates difficult for short-lived species, such as these species appear to be.

Impoundment of the upper Alabama and Coosa Rivers has isolated the goldline darter populations in the Cahaba River System from all other populations. Talking Rock Creek joins the Coosawattee River in a pump storage reservoir downstream of Carters Reservoir and isolates a population of goldline darters from all other populations. The other populations of the goldline darter in the Coosawattee River System, other than in Talking Rock Creek, are not isolated by reservoirs from each other. However, they are separated by many river miles and it is unlikely there is much genetic exchange between them and improbable that a population, if extirpated, would be naturally replaced. The reason(s) for this isolation is not clear. These streams have habitat that would appear suitable, yet the species has only been collected at intermittent sites. This could be from topography or from some other reason that is not apparent. Regardless, this isolation makes a population more susceptible to environmental disturbance.

The blue shiner occurs in the Coosawattee River (one site), Turniptown Creek (one site, a tributary of the Ellijay River), at seven sites on the Conasauga River, and at single sites in three tributaries of the Conasauga River (Freeman 1983). The Coosawattee River System populations are isolated from all other populations by Carters Reservoir. Populations in the Conasauga River tributaries, Holly and Rock Creeks, are probably isolated from all other populations by distance, topography or other unknown reasons. The mainstem Conasauga River and Minnewauga Creek populations are likely accessible to each other but isolated from all other populations by distance, topography or other reasons. The blue shiner occurs in Little River and in Choccolocco and Weogufka Creeks, all Coosa River tributaries (Pierson and Krotzer 1987). The only known site in Little River is near its confluence with Weiss Reservoir. Due to the difficulty of sampling that stream, the population may be more widespread in Little River than indicated. Regardless of the extent of the Little River population, it is isolated from all other populations by Weiss Reservoir. The small population in Weogufka Creek is isolated by Lake Mitchell. There are four known sites for the blue shiner in Choccolocco Creek. The populations in Choccolocco Creek are restricted to sites above Anniston, Alabama, possibly by water quality degradation. Drainage from Anniston Army Depot enters Choccolocco Creek and there is a history of contaminant problems on that installation (Schalla *et al.* 1984, Environmental Science and Engineering, Inc. 1986, Kangas 1987). While the blue shiner still exists at several sites in the

Coosa River System, most of the populations are isolated from other populations and vulnerable to environmental changes. Any event that adversely affects an isolated population, has the potential to eliminate it.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to make this rule final. Based on this evaluation, the preferred action is to list the goldline darter and blue shiner as threatened. Threatened status was chosen because both species still exist in several fragmented populations that are apparently reproducing. These fragmented populations preclude a single event from endangering either species.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time the species is determined to be endangered or threatened. In the proposed rule, the designation of critical habitat was considered to be not prudent due to a lack of benefit over that accrued by the listing. However, since publication of the proposed rule, consideration of a not prudent finding within the Service has resulted in a determination that designation of critical habitat may be prudent but that it is not now determinable. Section 4(b)(6)(C) of the Act provides that a concurrent critical habitat determination is not required, and that the final decision on designation may be postponed for 1 additional year beyond the period specified in section 4(b)(6)(A), if the Service finds that a prompt determination of endangered or threatened status is essential to the conservation of the species. The Service believes that a prompt determination of threatened status for the goldline darter and blue shiner is essential to their conservation. Listing these species will provide immediate protection while also allowing the Service additional time to evaluate critical habitat needs. In the coming months, a proposed rule for the designation of critical habitat will be published for review and comment by all interested parties. Following the public review period, the Service will make a decision on the appropriate area to designate as critical habitat, if any. Adequate protection will be provided during the interim through the recovery process and the Section 7 jeopardy standard.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

The Corps of Engineers will consider these species in project planning and permit regulation. The Environmental Protection Agency will consider both species in administering the provisions of the Clean Water Act. The Federal Highway Administration will consider these species when highway and bridge maintenance and construction is in proximity to the known range. The Federal Energy Regulatory Commission will consider both species when relicensing hydropower plants.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 17.32. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. For threatened species, there are also permits for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

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Author

The author of this rule is James H. Stewart (see **ADDRESSES** section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Regulations Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. Amend § 17.11(h) by adding the following, in alphabetical order under FISHES, to the List of Endangered and Threatened Wildlife.

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
FISHES							
*	*	*	*	*	*		
Darter, goldline	Percina aurolineata	U.S.A. (AL,GA)	Entire	T	462	NA	NA
*	*	*	*	*	*		
Shiner, blue	Cyprinella (=Notropis) caerulea.	U.S.A. (AL,GA,TN)	Entire	T	462	NA	NA
*	*	*	*	*	*		

(Final: Goldline darter, *Percina aurolineata*, and blue shiner, *Cyprinella caerulea*—*threatened)*

Dated: April 15, 1992.

Richard N. Smith,

Acting Director, Fish and Wildlife Service.

[FR Doc. 92-9393 Filed 4-21-92; 8:45 am]

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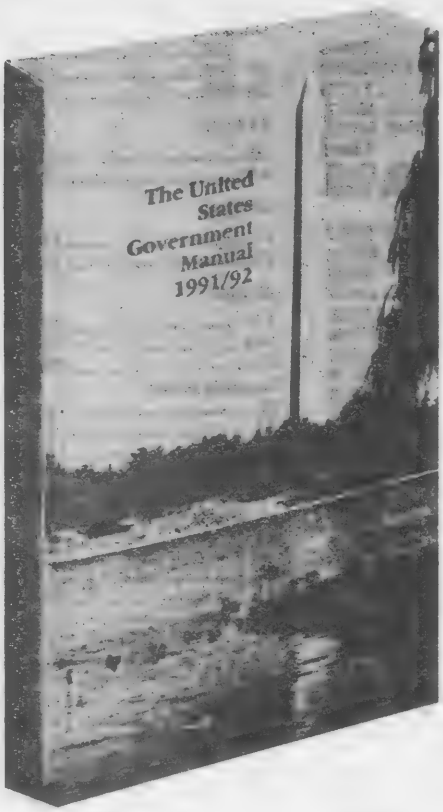

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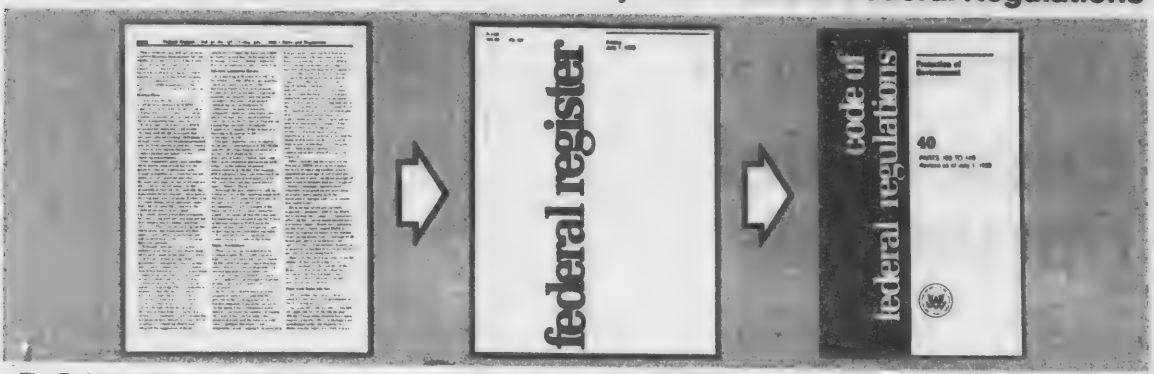

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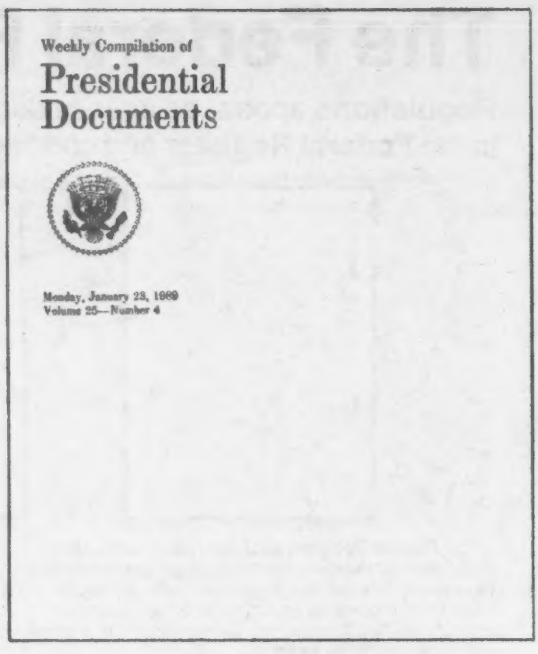

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